

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF : :

Tetsuya HASHIMOTO et al. : ATTN: Application Division

SERIAL NO: New Continuation : GROUP:
Application

FILED: Herewith : EXAMINER:

FOR: DIGITAL CAMERA WHICH DETECTS A CONNECTION TO AN EXTERNAL
DEVICE

PRELIMINARY AMENDMENT

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Prior to the examination of the above-referenced application, please amend the
application as follows:

IN THE SPECIFICATION

**Please amend the specification as shown in the attachment. A clean copy of the
amendments to the specification is shown below.**

Please replace the paragraph beginning on page 1, line 7 through line 23 with the
following:

This application is related to commonly owned co-pending U.S. Patent Application
08/535,378 entitled "Digital Electronic Camera Having an External Input/Output Interface
Through Which the Camera is Monitored and Controlled", now U.S. Patent 5,754,227 and
U.S. Patent Application 08/535,562 entitled "A Digital Electronic Still Camera Which

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Receives an Input/Output Control Program Through a Detachable Communication Interface Card”, now U.S. Patent 6,104,430, both of which were filed on September 28, 1995 and are incorporated herein by reference. This application is also related to commonly owned co-pending U.S. Patent Applications 08/603,583, entitled “Method and System for Reading and Assembling Audio and Image Information for Transfer Out of a Digital Camera”, now U.S. Patent 5,815,201 and 08/603,551 entitled “External Communication Interface for a Digital Camera”, now U.S. Patent 5,815,205, both of which were filed February 21, 1996 and are incorporated herein by reference.

IN THE CLAIMS

Please cancel Claims 1-15 without prejudice.

Please add Claims 16-34 as follows:

16. A digital camera for use with a computer, comprising:

a camera body including a light sensor for receiving light from a lens;

a central processing unit for controlling operation of the digital camera in one of plural operating modes, including separate operating modes of at least a recording mode for recording picture data from the light sensor into a picture memory, a playback mode for playback of pictures stored in the picture memory, and a communication mode for communicating with a computer;

a mode selector including at least one selector on the body for selecting an operating mode, including the recording mode and the playback mode; and

a connector for providing a connection from the digital camera to a computer;

wherein the central processing unit is programmed to detect a signal from a computer upon connection of the camera to the computer and in response to the connecting operation automatically switch the operating mode of the digital camera out of a current operating mode selected by the mode selector and into the communication mode.

17. A digital camera as in claim 16, wherein the connector has plural pins and the central processing unit monitors the signal status on one of the pins to detect the connecting of the computer.

18. A digital camera as in claim 17 wherein the central processing unit monitors the signal status by periodically checking the signal at the pin to detect connecting of the computer.

19. A digital camera as in claim 16 further including the picture memory.

20. A digital camera as in claim 19 wherein the picture memory, is a removable memory.

21. A digital camera as in claim 16 wherein the central processing unit includes a single chip.

22. A digital camera as in claim 16 wherein the central processing unit includes plural components.

23. A digital camera as in claim 16 wherein upon detection of connecting to a computer, the central processing unit sets up appropriate communications algorithms so that the camera is prepared to communicate with the computer.

24. A digital camera as in claim 16 wherein the central processing unit is programmed to provide communication to a computer in accordance with a standard communication protocol.

25. A digital camera as in claim 24 wherein the standard communication protocol is RS-232.

26. A digital camera as in claim 16 wherein the camera includes the lens which is carried within the body.

27. A digital camera as in claim 16 wherein the light sensor is a CCD censor.

28. A digital camera comprising:

a camera having a body, a lens unit, a CCD sensor for receiving images from the lens unit, a picture memory for recording image data, and a connector for connection of the camera to a computer;

control means for controlling the operation of the digital camera to operate in one of plural modes including (a) a recording mode in which picture data from the CCD is recorded into the memory, (b) a playback mode in which previously recorded picture data is provided from the memory as a video signal for playback on a display, and (c) a communication mode in which the digital camera can communicate with an external computer for transfer of picture data from the memory to the computer;

at least one mode selector for selecting an operating mode for the camera from among the available operating modes except for the communication mode; and

wherein the control means includes detection means for detecting a signal from a computer in response to the operation of connecting of the digital camera to the computer via

the connector, and in response to the detection the control means switches the operating mode of the camera out of the current operating mode selected by the selector and into the communication mode.

29. A digital camera as in claim 28 wherein the picture memory is a detachable memory card.

30. A digital camera as in claim 28 wherein the control means includes a central processing unit and further includes signal processing means for processing data from the CCD sensor and image data compression means for compressing data from the signal processing means prior to recording in the picture memory.

31. A digital camera as in claim 28 wherein the communications mode operates in accordance with a standard communication protocol.

32. A digital camera as in claim 31 wherein the standard communication protocol is RS-232.

33. A digital camera as in claim 28 wherein the connector includes plural pins and the control means monitors the signal at one of the pins and switches the operating mode to the communication mode when a signal is detected on the pin.

34. A method of controlling a digital camera having a connector for connection to a computer, comprising the steps of:

operating the digital camera without communication with a computer in one of a plurality of non-communication operating modes in accordance with the setting of a mode selector on the camera, including at least a picture taking mode in which pictures are

recorded from an image sensor in the camera into a picture memory and a playback mode in which pictures from the picture memory are provided to a display;

detecting by the camera the operation of connection to a computer by monitoring a pin of a connector of the camera and detecting the presence of a signal from the computer on the pin;

switching the operating mode of the camera, in response to the detection of the presence of the signal, out of the mode selected by the mode selector so as to prevent recording from the image sensor or playback to a display and into a communications mode in which the camera communicates with the computer; and

communicating picture information from the camera to the computer while in the communications mode.

REMARKS

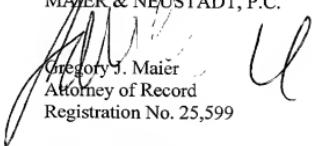
Favorable consideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 16-34 are pending in the present application; Claims 1-15 having been canceled by way of the present Amendment.

Consequently, in light of the above-discussion and in view of the present Amendment, an action on the merits is respectfully requested.

Respectfully submitted,

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IN THE SPECIFICATION

This application is related to commonly owned co-pending U.S. Patent Application 08/535,378 entitled "Digital Electronic Camera Having an External Input/Output Interface Through Which the Camera is Monitored and Controlled", now U.S. Patent 5,754,227 and U.S. Patent Application 08/535,562 entitled "A Digital Electronic Still Camera Which Receives an Input/Output Control Program Through a Detachable Communication Interface Card", now U.S. Patent 6,104,430, both of which were filed on September 28, 1995 and are incorporated herein by reference. This application is also related to commonly owned co-pending U.S. Patent Applications [08/XXX,XXX] 08/603,583, entitled "Method and System for Reading and Assembling Audio and Image Information for Transfer Out of a Digital Camera", now U.S. Patent 5,815,201 and [08/XXX,XXX] 08/603,551 entitled "External Communication Interface for a Digital Camera", [each concurrently filed with the present application and incorporated herein by reference.] now U.S. Patent 5,815,205, both of which were filed February 21, 1996 and are incorporated herein by reference.

IN THE CLAIMS

Claims 1-15 are canceled.

Claims 16-34 are new.